



The ILLINOIS ENGINEER

ILLINOIS SOCIETY OF PROFESSIONAL ENGINEERS

INCORPORATED

Affiliated with the National Society of Professional Engineers
631 East Green Street Champaign, Illinois



VOLUME XXIX, NO. 7

SUMMER ISSUE

JULY, 1953

THE ILLINOIS ENGINEER—THIS MONTH

"By Their Fruits, Ye Shall Know Them"

The engineering profession has been greatly exercised during recent years because it did not have the public esteem which it felt it deserved and it has been bending every effort to correct the situation. N.S.P.E. has been particularly active in this direction, having spent a good share of its energy as well as comparatively large sums of money to improve the standing of the engineer, both economically and socially. These activities have had the approval and full support of all of us. Witness the thirty-thousand dollars, more or less, which was raised through voluntary contributions by National two or three years ago for its public relations program. This program is only now drawing toward completion.

All this is legitimate and proper business for the N.S.P.E. This is what our national organization is for. The profession wants deserved recognition obtained through dignified procedures.

But isn't there also something to be said for the engineer who receives an important part of his compensation in the satisfaction he obtains from seeing his ideas take concrete form in a completed structure. Does the driver of the automobile moving over improved highways and bridges need to know the individual engineers who conceived, designed, and built all of them, in order to appreciate their contributions toward his good way of life. The answers to these and similar questions are obvious.

Service to mankind is a reward unto itself. In our clamor for the material let's not disregard the spiritual entirely.

W. A. OLIVER, Editor

CENTRAL ILLINOIS CHAPTER ISSUES DIRECTORY

The Central Illinois Chapter of I. S. P. E. has just issued its annual Membership Directory. In addition to the names and addresses of members, the directory contains lists of current officers and committees. We believe that Central Illinois is the only chapter which issues such a membership list and we congratulate them again upon the successful completion of this annual project.

One pound of learning requires ten pounds of common sense to apply it.

—Persian Proverb.

PRESIDENT'S MESSAGE

July, 1953

The desirability of having each of you attend one of the Annual Conventions of the National Society of Professional Engineers cannot be over-emphasized. A world of knowledge of the functions and of the place the N. S. P. E. occupies in the ideology of the profession can be gained by being in attendance. Six members of I. S. P. E., including myself, attended the convention of the National Society at Daytona Beach, Florida, during the past month.

Commendable work of the past year, with recommendations and suggestions, was produced by the numerous committees. Discussions and specific actions on the many important items were ordered or concluded. The steadfast, sound action of the Board of Direction of the National Society, consisting of the delegates of the constituent State Societies, is producing a forward momentum of N. S. P. E. During the year, membership has increased by 2,981, bringing the total membership to 30,438 as of June 1, 1953.

The actions at the Convention were voluminous. Our National delegates are producing, for publication in this magazine, comprehensive reports of the actions with comments.

To prepare for a large representation at the 1954 N. S. P. E. Convention, I take the opportunity of informing the membership that the National Convention will be held in Milwaukee, Wisconsin, early next June. Our representation should be second to no other State Society; so, let's consider a good representation at next year's National Convention.

A meeting of our State Society Board of Direction was held this past June 13th at Champaign to take necessary action on items that were not completed at the Board meeting at Rock Island and to handle subsequent matters.

As ordered by the Board, a Co-exploratory Committee was formed and is in full operation at this time. The committee was ordered to investigate carefully means of expediting the growth of I. S. P. E. and later to confer

SUBSCRIPTION RATES

\$2.00 per year in advance to members of the Illinois Society of Professional Engineers. \$4.00 per year in advance to non-members in U.S.A. and its possessions, Canada, and Mexico. Foreign \$6.00. Single copies 40c. Published by the Illinois Society of Professional Engineers, Inc., at 631 East Green Street, Champaign, Illinois.
Entered as Second Class Matter April 27, 1949, at the Post Office, Champaign, Illinois.

jointly with the original committee. A stimulating report can be expected of the new committee, consisting of: A. Douglas Spicer (Secretary-Treasurer of I. S. P.E.) as Chairman; Sidney Danoff, L. J. Keenan, J. H. Morgan, L. H. Pappmeier and Dwain Wallace.

The newly-formed committee is ready to receive from any member information that is pertinent to the work of the committee.

RAYMOND G. BRICHLER,
President, I.S.P.E.

REPORT OF THE MEETING OF THE BOARD OF DIRECTION

June 13, 1953

P. E. ROBERTS, *Executive Secretary*

The Board of Direction met at 10 a. m. June 13 in the University Y. M. C. A., Champaign, to consider the items of business which had to be deferred on account of lack of time at the March 28 meeting in Rock Island.

Committee Reports

The Constitutional Amendments Committee recommended that a mail ballot be sent to the corporate membership on the elimination of Sections 29-32 of the Illinois Society Code of Ethics. The change, if and when approved, will bring the Illinois Society Code in conformity with the National Code of Ethics.

The Ethics and Practice Committee reported on its work in listing engineering classifications in the phone books. The Board approved the work of the committee. The committee also reported on two alleged violations of the Professional Engineering Act. The committee is gathering further data before they make a report. They are also studying a case of violation of the Code of Ethics.

The Ladies Auxiliaries Committee reported that the Editor of the ILLINOIS ENGINEER requested that the Central Illinois and St. Clair Ladies Auxiliary Units give reports of their activities for use in the magazine.

The Registration Laws Committee submitted a long interim report from Chairman Graf in which it was pointed out that there are several Illinois statutes which could be amended to bring them up to date engineering-wise. The suggestions of the committee are being passed along to the proper committees for study and report.

Chapter Representatives Report

The roll call of the Chapter Representatives brought to the attention of the Board the many splendid activities of the various chapters of the Society. Several reported on their participation in National Engineers Week, two on sponsorship of refresher course classes, one on a chapter public relations project and one (Illinois Valley) on its participation in the Ottawa Centennial with an Illinois Society float in the parade.

Old Business

1. Illinois Engineering Council legislative activity reported on the several Bills of interest to engineers which

are being considered by the Illinois General Assembly.

NOTE: H.B. 451, the *Engineer-in-Training Bill* was reported passed by both the House and the Senate. The Bill was approved by the Governor (June 16) subsequent to the Board meeting. The two architect's Bills were both stricken from the calendar.

2. Motion carried to waive dues of members of the Illinois Society in active military service on their request.

3. Motion carried to re-submit Constitutional Amendment to corporate members of the Society on the proposal to permit E-I-T's to hold chapter office of secretary-treasurer or secretary or treasurer.

4. Accepted Annual Report of the Building Code Committee Report with the fourth paragraph of the report deleted.

5. Student chapters question referred to the Professional Education Committee for consideration and study.

6. State dues increase referendum which was recommended at the 68th Annual Meeting was deferred until after the Co-Exploratory Committee makes study and report.

7. Co-Exploratory Committee with Chairman Spicer and five members now have data and will proceed with its deliberations.

8. Received and filed the Annual Report of the Legislative Analyzing Committee as reworded by Chairman Dwain Wallace.

New Business

1. Custodian of Society's safety deposit box approved.

2. Two Honorary Student memberships from Bradley University approved.

3. Lake County Chapter Constitution approved with the omission of a duplicated paragraph.

4. Question brought up by Joliet Chapter about members residing in Kankakee not wishing to belong to chapter on account of distance involved. Membership cards have been sent by Joliet secretary to Kankakee members. Suggestion made that map of Illinois showing chapter areas be printed in the ILLINOIS ENGINEER was referred to the Editor for his consideration.

5. Suggestion that Executive Secretary's office carry serial numbers on papers and reports to the Board of Direction.

Summary

The Board of Direction and President Brichler are to be congratulated on the volume of work handled by it at its June 13 meeting and finishing its work only 20 minutes after the announced adjournment time of 3:30 p. m. The lunch hour was shortened in order to permit the Board to resume work. Lee Osborn began a flight to Champaign at 6 a. m. but was held up in Peoria by bad weather and arrived at the meeting just as it was closing.

Shortage of Engineers ? ?

The following letter expresses one point of view concerning the present activities to encourage young men to enter the engineering profession. What are your ideas? We would be glad to present them to the Society in the pages of the ILLINOIS ENGINEER.

THE ILLINOIS ENGINEER,
631 East Green Street,
Champaign, Illinois.
Attention: W. A. Oliver, Editor.
Gentlemen:

I am grateful for the invitation extended by THE ILLINOIS ENGINEER to comment on the shortage of engineers.

In my opinion, this so-called problem merits the same careful, methodical study that an engineer would apply in solving any other engineering problem; in fact, more so, since it strikes so closely to his well-being.

In earlier times, it was that the engineer worked closely with the operators of business in producing products yielding mutual profit. As business grew and time passed, the owners soon recognized that engineering could be counted on to produce the judgments for them to act upon. As still more time passed, ownership recognized another group called management who could more skillfully handle its money and produce more profit. Thus, gradually but surely the divorce of engineering from the operating group had taken place.

Today the engineer in industry merely is a producer of ideas, designs, reports, estimates, analyses, etc., in a prolific sort of way; these then to be placed on a platter for management to select. In some instances, even this selection is left to the engineer.

Herein lies the ever-present lurking heartache for while his efforts directly influence the profits and well-being of all, like perhaps no other group, his is not an adequate share of the profit pie, nor prestige of position.

And now, some among us engineers have become so charitable that the urge to share this little is too great to suppress.

Let us look at still another aspect of this alleged shortage. Who are the real promoters for more engineers? The answer: schools and industry. Are their motives purely altruistic? I think this answer is obvious, for their objective is hard, cold profit. Schools need paying students, industry wants cheap engineers. This is fact!

I say that if a shortage exists, let's enjoy it; capitalize on it, and see if we cannot really attain professional status. Let's drive the right cars, live in the right neighborhoods, send our kids to the right schools and give the title of professional engineer rank fitting its true worth.

Bear this in mind also: once we have attained recognition as a group and as individuals we will never have an engineering shortage, for the schools will be more selective, industry will have qualified engineers, and the engineers a deep satisfaction of possessing real professional status.

A. J. ARNOLD, P.E.
2919 Gladstone Avenue
Rockford, Illinois

ANNOUNCE CONFERENCE ON INDUSTRIAL HYDRAULICS

Illinois Institute of Technology will be host to the ninth National Conference on Industrial Hydraulics October 8 and 9 at the Hotel Sheraton in Chicago.

Conference director will be O. E. Teichmann, assistant chairman of the heat-power department at Armour Research Foundation of Illinois Tech. Carl E. Schmitz, vice-president of the Crane Packing Company, will be associate director.

John G. Duba, assistant professor of civil engineering at Illinois Tech, and the conference secretary, announced that the following Tech faculty members will serve as committee members:

F. W. Edwards, director of civil engineering; R. E. Peck, professor of chemical engineering; and V. L. Streeter, research professor of mechanics and director, fundamental fluids research.

Societies that help Illinois Tech stage the conference each year include:

The Illinois section of the American Society of Civil Engineers, Chicago section of the American Society of Mechanical Engineers, Chicago section of the Society of

Automotive Engineers, Western Society of Engineers, American Society of Lubrication Engineers, Chicago section of the American Institute of Chemical Engineers, Chicago section of the Institute of Aeronautical Science, American Society of Agricultural Engineers, Chicago Chapter of the Illinois Society of Professional Engineers, and the Chicago Chapter of the American Society of Tool Engineers.

COST OF LIVING INDEX

The correction factor to be applied to the I. S. P. E. Schedule of Minimum Fees and Salaries was 190.6 for May, 1953. The factor is based upon the U. S. Department of Labor's most recent Consumer Price Index.

I hold every man a debtor to his profession;
from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves by way of amends to be a help and ornament thereunto.

Sir Francis Bacon

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HENNEPIN POWER STATION OPEN HOUSE

P. E. ROBERTS, *Executive Secretary*

Hennepin Power Station, the newest unit of the expanding power facilities of the Illinois Power Company, held an open house on June 19-21, 1953. The Hennepin Plant is the last word in the economical conversion of coal to electricity. Located on the Illinois River, the station enjoys low barge rates in transportation of coal and also has an unlimited supply of condenser cooling water.

Steam at 1000 degrees Fahrenheit and 1450 p.s.i. is generated in a single unit steam generator with a capacity of 525,000 pounds of steam per hour. Pulverized coal is fired from 12 burners located three at each corner

of the generator and ash is disposed of hydraulically to a sluice pit located down river. The steam generator is also equipped to burn oil for pre-firing and to carry the load if conditions necessitate the use of an alternate fuel.

The 75,000 kw, 460-ton turbine-generator is a magnificent piece of engineering design. There is less vibration in this speeding rotor which spins at 60 revolutions per second than there is from an automobile engine turning at the same speed.

The management of the Illinois Power Company can be justly proud of its newest baby from every respect, engineering, architecture, equipment, location, and personnel. They have proved that the manufacture of electricity from coal can be accomplished in beautiful surroundings.

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You use a match and then throw it away. When you do the same with sheeting your budget suffers. But it's different with Armco Steel Sheeting. Job after job goes in without failure—some Armco Sheeting has been driven more than a hundred times.

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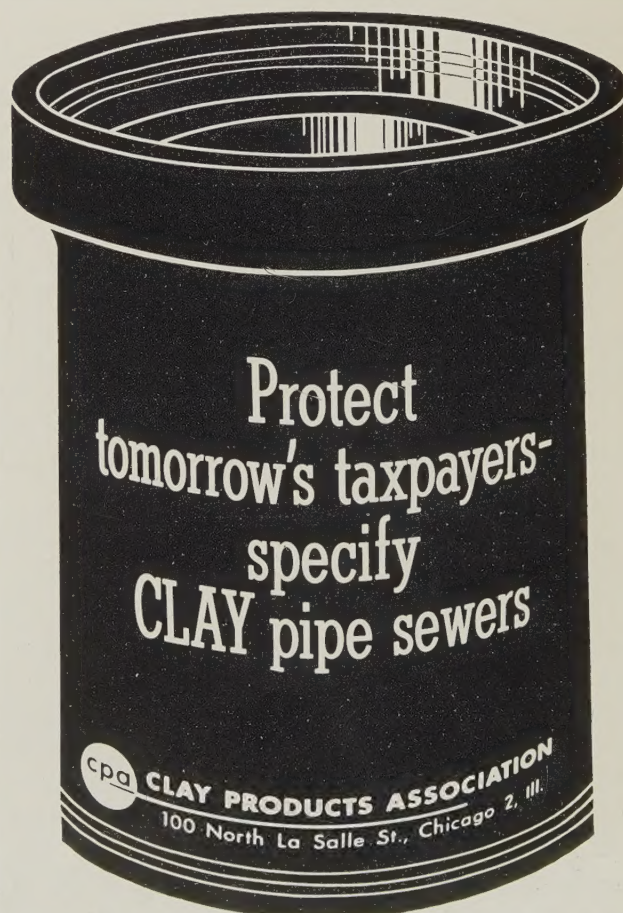
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If placed in a position as a result of an Engineers Available or Position Available advertisement, applicants agree to pay the established placement fee. These rates are available on request and are sufficient to maintain an effective non-profit personnel service. A weekly bulletin of positions open is available to subscribers. Apply E.S.P.S., Chicago.

OVER THE MANAGER'S DESK

July is one of the vacation months and is usually a time when engineering work sort of coasts along. Why not change the pattern this year and make July a month for starting new things? By filling vacancies in your organization in July, your staff will be indoctrinated enough by September to swing into action with pep for the fall.

If you are thinking of getting a new job, July is the month to definitely start looking so you will be all set to really do good work in the fall. Let E.S.P.S. help you fill those vacancies or get that new job.

B. H. A.

MEN AVAILABLE

Prod. Control Supt. 31. Six mos. production specialist keeping in touch with vendor, pilot model tests and correspondence. Three yrs. production control with electrical parts. Three yrs. production control off. Four yrs. apprentice machinist. \$6000. West. 646-PE

Consulting Engr. E.E. 53. Sixteen yrs. consulting engineer, analytical research, development, primarily electronics. Two yrs. supervision of engineering for electric mfr. Three yrs. technical development of television system. Three yrs. circuit and apparatus development. \$10,000. U. S. 647-PE

Stylizer. B.F.A. 25. Fourteen mos. charge of engrg. dept., design and engineer new products for therapy equipment. \$4200. Chicago. 648-PE

Designer. C.E. 24. One yr. designed steel, reinforced concrete, and timber structures for industrial plts. Two yrs. set and stakes for new track with transit, inspected all phases of street construction. Chicago. \$5,000. 649-PE

Chem. Engr. Chem. Engr. 31. Six yrs. application design of instrument and automatic control equip. Three yrs. supervisor of pilot plants, fluid catalytic cracking; thermo-cracking, etc. \$6500. Midwest. 650-PE

Tracer (Woman). 34. Four yrs. electrical, mechanical, and architectural tracer. \$3600. Chicago. 651-PE

Const. Supt. E.E. 53. Eighteen mos. design power plants, indust. rehabilitation programs, etc. Seven yrs. resp. for elect. equip., adapt electrical means to gaging, insp. and testing design testers and collaborate in development. \$6000. U. S. 652-PE

Production Engr. Ch.E. 26. Three yrs. maintain production control costs, yields and quality for a meat packer. \$5000. Midwest. 653-PE

Ind. Mgmt. Engr. 36. Thirty-two mos. supervise activities of process engrg. personnel and plt. layout, expedite purchase of tools and equip. Four yrs. process engrg. and production planning. Nine mos. supervise activities of tool and die shop. \$10,000. Midwest. 654-PE

Ind. Mgmt. Engr. M.E. 26. Three yrs. ind. engr. doing special projects, methods, time study, process engrg., set production rates and developed and improved methods on machining and other operations. \$6300. Chicago. 655-PE

Chief Engr. Chem. Engr. 41. Eight yrs. making sales contacts, assist in engineering special industrial machinery, and correspondence. Four yrs. supervision on inventory control, priorities and rationing. Five yrs. engineering applications of special machinery, development and research. \$9000. Midwest. 656-PE

POSITIONS AVAILABLE

Application Engineer. E.E. Age: 25-30. 2 plus yrs. exp. in utilities or heavy industrial users of power. Knowledge of high-voltage equipment. Duties: application work in sales department of manufacturer of high voltage equipment. Can lead into sales eventually if desired. For a manufacturer. Employer will pay fee. Salary: Up to \$525 per mo. Loc.: Chicago. C-1008

Recent Graduate. Age: 25-35. Recent graduate or better. Knowledge of business administration helpful. Duties: Train for general manager's assistant for inside customer contact. For a manufacturer of equipment. Salary: \$350-\$400 per month. Employer will pay fee. Location: Chicago. C-1030

Assistant Master Mechanics. Mech. or Chem. Eng. Age: About 35. Some exp. in equipment design, mostly handling of men engaged in repair and construction. Knowledge of process equipment. Duties: Primarily direct supervision and direction of foremen and mechanics (millwrights, machinists, pipe fitters, electricians, welders, riggers) on repair and construction work—about 75 men, also supervision of steam and power production (7000 kw.). Business: Corn products mfg. starch, etc. Salary: About \$600 per mo. Employer will pay expense of trip for interview. Loc.: Iowa. C-1028

Designer and Prod. Engineer. Grad. E.E. or M.E. 0-2 yrs. exp. in design or production work. Know: shop operations and electronics. Duties: simple design of electronically operated instruments for aircraft, detailing and following through production. Salary: \$6000. Employer might negotiate fee. Location: Chicago. C-1027

Mechanical Design. M.E. 5 plus yrs. exp. in building mechanical design work. Duties: Design mechanical phases of buildings. Very little board work. For an engineer. Salary: Up to \$7200 per yr. Location: Chicago. C-1026

Chemical Engineer. Grad. Chem. Eng. Age: 40. 15 yrs. exp. pilot plant operations. Duties: Pilot plant operations on assignments involving fibers, waxes, proteins, coal briquetting, etc. One yr. contract provision for 6 months additional employment. Salary: 10% over present earnings plus 25% living allowance and bonus. Location: Mexico. C-1025

Test Operating Engineer. Grad. At least 5 yrs. exp. in testing, involving some exp. with high speed instrumentation 2 of which should have been in supervisory capacity. Direct instr. engr. supervise data processing, computers and tech. writers carrying out following: check instr. against test spec. instruments for operation condition, check instr. inspection and calibration records. Assign men to testing duties. Collect data during test, arrange same and direct compiling data and processing of prel. test reports. \$8000-\$9000. Location: Michigan. C-1024

Lubricant Sales. M.E., E.E. or I.E. Age: up to 35. 2 plus yrs. exp. in industrial sales and preferably lubricants or maintenance products of similar nature. Knowledge of industrial lubricants helpful. Duties: selling line of petroleum products to industrials. For a major oil company. For a petroleum refinery company. Salary: up to \$500 per mo. Car furnished. Location: Chicago. C-1023

Metallurgist. M.S. or Advanced Deg. in Met. Work on advanced development of materials and processes as related to electron tube develop. and mfg. Work is mainly with non-ferrous metals, stainless steel alloys and may include planning and directing work of 2-3 technicians. 2-5 yrs. exp. Salary: \$6000 or better. Employer will pay fee. Location: New Jersey and Pennsylvania. C-1022(a)